

Terasen Gas Inc. Information Request No. 1.1.1.1 Dated: July 5, 2006 British Columbia Hydro & Power Authority Response issued July 26, 2006	Page 1
British Columbia Hydro & Power Authority BC Hydro F07/F08 Revenue Requirements Application	Exhibit: B-11

1.0 Reference: F07/F08 RRA, Chapter 11, Status of F05/F06 RRA BCUC Directives and 2005 REAP Commitments

Preamble (quoted from Chapter 11, Page 11-13)

Directive

“ 52. The Commission Panel accepts that Terasen’s submission is not a request to redesign BC Hydro’s SET. The Commission Panel directs BC Hydro to periodically update the input factors when evaluating customer driven projects. The amortization period for CIAC employed by BC Hydro is consistent with the amortization period allowed for other utilities under the Commission’s jurisdiction and, accordingly, is accepted. (page 167)”

Status

“To be addressed in the Rate Design Application.”

Action Taken, Relevant Filing Dates and Comments

“BC Hydro is planning to file a Rate Design Application (RDA) that will include a proposal regarding the System Extension Test (SET).”

As quoted above, the BCUC Decision on BC Hydro’s F05/F06 Revenue Requirement Application at page 167 found that updating SET input factors to current levels was not a matter of rate design and directed BC Hydro to update its input factors periodically.

1.1.1.1 Has BC Hydro updated SET input factors such as the Cost of Electricity, the Upstream Cost of Transmission and others as described and defined in Pages A-5 to A-5-2 of BC Hydro’s Electric Tariff since the October 29, 2004 BCUC Decision in its evaluation of customer driven system extensions? If so, please provide the values for the factors that were updated, both before and after the updates.

RESPONSE:

With the exception of the cost of construction for each distribution extension, BC Hydro has not updated the values used in the SET. It is not practicable to provide before and after values for the cost of construction, primarily materials and labour, as those values have been updated almost on a daily basis since the SET was put into practice.

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1.1.1.2 If not, why not? Please include discussion of BC Hydro’s reasons for waiting for its Rate Design application to deal with this BCUC directive when the Commission’s finding indicates that updating input factors is not a matter of rate design.

RESPONSE:

Under BC Hydro’s current tariff, the contribution provided by BC Hydro toward a new extension is based on the difference between the expected incremental revenue and the estimated incremental costs of supplying the new load. Updating the SET to reflect the current marginal cost of generation would result in the expected incremental revenues being lower than the estimated incremental cost of supplying the new load. As a result, new customers would be required to pay for the entire cost of their extensions. In BC Hydro’s view, this approach would be inappropriate because it could effectively deny new customers any benefit of the low embedded cost of Heritage Resources.

BC Hydro is planning to file a revised extension policy with its Rate Design Application.

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1.0 Reference: F07/F08 RRA, Chapter 11, Status of F05/F06 RRA BCUC Directives and 2005 REAP Commitments

1.1.2 What is the Cost of Electricity in \$/kwh that is presently being used in SET evaluations? Is this value consistent with the SET Cost of Electricity found at Electric Tariff, Page A-5-2 which is defined as “the future incremental cost of generation and 500 kV (bulk) transmission as estimated by B.C. Hydro to serve a Customer’s new load”? If the Cost of Electricity presently being used in SET evaluations has not been updated to current levels please provide BC Hydro’s estimate of an updated current value for the Cost of Electricity which would meet the SET definition.

RESPONSE:

The cost of electricity currently being used in the SET calculation is the sum of the cost of energy and the cost of capacity. The cost of electricity used for a specific SET calculation varies depending on the region of BC Hydro’s service territory, the size and type of customer (e.g. residential, commercial), the type of dwelling (e.g. single family, apartment) and whether or not the account has electric heat. Therefore each SET calculation results in a cost of electricity that reflects the customer’s specific circumstances.

The current energy and capacity values that are used as inputs to the SET are as follows:

Region	Energy (cents/kWh)	Capacity (\$/kW)
Fraser Valley	2.21	29.00
Lower Mainland	2.21	29.00
Northern BC	2.01	23.75
Southern Interior	2.05	24.00
Vancouver Island	2.24	47.00
Non-integrated area	3.60	6.66

As discussed in the response to TGI IR 1.1.1.2, BC Hydro has not developed an estimate of what the updated current value for the cost of electricity would be as BC Hydro is planning to file a revised extension policy in its Rate Design Application.

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1.0 Reference: F07/F08 RRA, Chapter 11, Status of F05/F06 RRA BCUC Directives and 2005 REAP Commitments

1.1.3 Please provide the results of a SET evaluation for a typical new residential development under two cases. In the first case assume that the development does not have electric space or water heating. In the second case provide the results for the same residential development but with electric space and water heating added to the forecast electric load. Provide a full listing of the assumptions and factors employed in the sample SET cases as well as the outputs and results of the analysis, including, but not limited to, the capital costs of the system extension, the number of customers, expected electricity consumption (per customer and in aggregate), revenues, cost of electricity, cost of upstream transmission, cost of upstream distribution system improvements, operating costs, line losses, taxes, discount rate, present value calculations, forecast revenue surplus or shortfall, and customer contribution required.

RESPONSE:

Please see below.

Results of Distribution System Extension Test for a Typical Under-ground Residential Development

	Scenario 1	Scenario 2
Electric Space Heat (1)	No	Yes
Location	Fraser Valley	Fraser Valley
Total Cost of Construction	\$186,262	\$186,262
Number of customers	97 accounts at rate 1101	97 accounts at rate 1101
Expected Electricity Consumption per Customer	10,819 kWh	17,844 kWh
Total Consumption	1,049,443 kWh	1,730,868 kWh
Subdivision Infill Factor	80%	80%
Annual Revenue	\$38,466	\$61,868
Cost of Electricity	\$18,681	\$31,278
Cost of Upstream Transmission	\$765	\$1,353
Cost of Upstream Distribution System Improvement	\$4,340	\$7,668
Cost of Substation System Improvement	\$11,799	\$20,852
Net Operations and Maintenance	\$310	\$310
Taxes & Grants in Lieu	\$1,181	\$1,415
Retail Cost	\$2,123	\$2,123
Energy Loss	\$911	\$1,503
Capacity Loss	\$344	\$608
Discount Rate	8%	8%
Present Value of 10 Year Revenue Margin	\$103,375	\$170,364
Forecast Revenue Surplus or Shortfall (Net Margin / Extension Fee) (3)	\$8,266 Shortfall	\$50,060 Surplus
Contribution in Kind from Customer (2)	\$46,696	\$46,696
Dedicated Connection Charge (2)	\$40,734	\$40,734
Blanket Tripartite Right of Way Fee (2)	\$400	\$400
Customer Contribution Required (2)	\$2,704	Zero
Payment to Customer given value of in kind work (2)	Zero	\$5,562.00

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- (1) - Application of "electric" applies to space heat only. BC Hydro's standard residential load calculation considers electric space heating and does not specifically address water heating. This comparison assumed the same main switch sizes for both scenarios
- (2) - The customer's contribution is the sum of the shortfall, dedicated connection charge and right of way fee net of the contribution in kind.

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- 1.1.4 Please repeat the SET analysis for the same residential development for both cases (i.e. without and with space/water heating) using the same assumptions with respect to capital costs, customers and expected load but with updated current input factors for the cost of electricity and any other factors common to all SET evaluations. Identify all factors that have been changed and provide the same listing of assumptions, factors and results as with the previous analyses.

RESPONSE:

The SET cannot be run for these two scenarios because the inputs have not been updated. Please refer to the response to TGI IR 1.1.1.2.